Test Vectors generation for STT with the STT Simulator

11 May 2001, STR

1 - **SMT** raw data stream

2 - **FRC** data stream - original or reformatted

(code developed by Evgeniy Popkov)

3 - **Clusters /strips**, as processed by Simulator

4 – **Hits** (Clusters associated to CFT Tracks), as processed by Simulator

Test Vectors for STC (cont)

Possible selections

1 – SMT stream

* a given ***SMT detector*** ([Seq, HDI] or
  [Barrel, Layer, Ladder])

2 – FRC data

* a given ***SMT detector*** ([Seq, HDI] or
  [Barrel., Layer, Ladder]
* a given ***STT sector*** [ie a list of above])
* a set of ***CFT sectors*** ([sector *high*, sector *low*])
* a range of ***road LUT tables*** (one per SMT deatector)
* original FRC format
  or reformatted for STC (“test” mode)
  or stripped (headers/trailers off)

Test Vectors for STC (cont)

Possible selections

3 - Clusters / Strips

* a given ***SMT detector*** ([Seq, HDI] or [Barrel. Layer, Ladder])

4 - Hits

* a ***set of roads*** (ie a set of CFT sectors, i.e. a given SMT detector or a set of SMT detectors - hardwired -)

Test Vectors for STC (cont)

Data Formats

1 - SMT raw data stream

as it comes from VTM – header , trailer, and data .

Added event number, number of SMT hits

2 – FRC stream

- Headers and Trailers

includes L1CTT headers (original format) and Receiver/Transmitter FRC header

or STC FIFO (reformatted mode, for “test” STC)

- Data :

selects roads within the specified CFT sector range;

writes 17 bit FRC word for each selected road

or as required by STC FIFO

writes corresponding SMT strip range (as from road LUTs)

Test Vectors for STC (cont)

Data Formats

3 - Clusters / Strips

Cluster information as produced in Clusters Class of the Simulator:

Cluster size, centroid hard address

strips belonging to cluster

- no format requirements -

4 - Hits

CFT track information

Clusters (centroids) associated to track

- no format requirements -

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